IN THE CLAIMS:

Please amend Claims 1, 14, 21, 28, 44 and 45, and add new Claims 46 to74, to read as follows. Note that all claims currently pending in this application, including those presently being amended, have been reproduced below for the Examiner's convenience. A marked-up copy showing the changes made to the claims is attached as an appendix.

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1. (Amended) A data processing apparatus which can perform data communication with various devices connected on a predetermined communication medium, comprising:

acquirement means for acquiring a resource information structure and a status of each device by communicating with the various devices;

management means for storing and managing the resource information structure and the status acquired by said acquirement means; and

virtual system configuration display means for causing a display unit to display a system configuration based on the resource information structure and the status stored and managed by said management means, such that icons capable of being discriminated for respective functions are displayed to be connected on a virtual network path,

wherein, when a device capable of coping with a color data processing is connected on the predetermined communication medium, said virtual system configuration display means causes said display unit to display a mark indicating such a fact nearby the icon corresponding to the device capable of coping with the color data processing.

45. (Amended) A storage medium which stores a program to cause a data processing apparatus which can perform data communication with plural devices connectable with a data communication path, to execute following step:

a display control step of displaying icons visually representing appearances of the devices connected on the data communication path, on a display unit,

wherein said display control step displays, on the display unit, an image representing the data communication path together with the plural icons respectively corresponding to the plural devices, and

said display control step disposes and displays the icons nearby the image representing the data communication path according to a connection status of the data communication path and the devices,

wherein, when a device capable of coping with a color data processing is connected on the data communication path, said display control step causes the display unit to display a mark indicating such a fact nearby the icon corresponding to the device capable of coping with the color data processing.

2. (Unamended From Previous Version) An apparatus according to Claim 1, wherein the icon for each function is a specific icon which is allocated to a maker of each device and of which displaying form is different from others.

3. (Unamended From Previous Version) An apparatus according to Claim 1, further comprising:

first indication means for indicating an arbitrary combination of the icons for the respective functions displayed on the display unit; and

first judgment means for judging effectiveness of an arbitrary combination function indicated by said first indication means,

wherein, when it is judged by said first judgment means that the combination function is effective, said virtual system configuration display means temporarily changes a display status of the icon for each function indicated by said first indication means from display statuses of other icons while the combination function is being executed.

4. (Unamended From Previous Version) An apparatus according to Claim 1, further comprising:

first indication means for indicating an arbitrary combination of the icons for the respective functions displayed on the display unit,

wherein said virtual system configuration display means displays a path to connect shortest the icons for the respective functions indicated by said first indication means on the virtual network path in a displaying form different from a displaying form of other paths.

5. (Unamended From Previous Version) An apparatus according to Claim 4, wherein,

when said virtual system configuration display means displays the path to connect shortest the icons for the respective functions indicated by said first indication

means on the virtual network path in the displaying form different from that of other paths, said virtual system configuration display means adds a specific emphasis pattern to the indicated icons to emphasize and display these icons.

6. (Unamended From Previous Version) An apparatus according to Claim 1, wherein the various devices include at least any of a printer, a fax machine, a digital copying machine, a scanner, a digital camera and a modem.

7. (Unamended From Previous Version) An apparatus according to Claim 1, wherein said data processing apparatus can communicate with other data processing apparatus functioning as a management server.

8. (Unamended From Previous Version) An apparatus according to Claim 7, wherein said other data processing apparatus updatably stores resources for displaying the resource information structure acquired from the various device and the status of each device.

9. (Unamended From Previous Version) An apparatus according to Claim 1, wherein said acquirement means acquires the resource information structure from a device driver of each device.

10. (Unamended From Previous Version) An apparatus according to Claim 1, wherein the resource information structure is described based on a predetermined data structure.

11. (Unamended From Previous Version) An apparatus according to Claim 8, wherein the resources include various icon image data for displaying the system configuration.

12. (Unamended From Previous Version) An apparatus according to Claim 1, further comprising judgment means for judging whether or not each device is shared on a network and a driver has been installed in said data processing apparatus,

wherein a displaying form of the icon corresponding to the device of which driver is not installed in said data processing apparatus is made different from a displaying form of the icon of other device in accordance with the judged result of said judgment means.

13. (Unamended From Previous Version) An apparatus according to Claim 12, wherein the icon corresponding to the device of which driver is not installed in said data processing apparatus is displayed in gray.

14. (Amended) A data processing method in a data processing apparatus which can perform data communication with various devices connected on a predetermined communication medium, said method comprising:

an acquirement step of acquiring a resource information structure and a status of each device by communicating with the various devices;

a management step of storing and managing the resource information structure and the status acquired in said acquirement step; and

a virtual system configuration display step of causing a display unit to display a system configuration based on the resource information structure and the status stored and managed in said management step, such that icons capable of being discriminated for respective functions are displayed to be connected on a virtual network path,

wherein, when a device capable of coping with a color data processing is connected on the predetermined communication medium, said virtual system configuration display step causes said display unit to display a mark indicating such a fact nearby the icon corresponding to the device capable of coping with the color data processing.

15. (Unamended From Previous Version) A method according to Claim 14, wherein the icon for each function is a specific icon which is allocated to a maker of each device and of which displaying form is different from others.

16. (Unamended From Previous Version) A method according to Claim 14, further comprising:

a first indication step of indicating an arbitrary combination of the icons for the respective functions displayed on the display unit; and

a first judgment step of judging effectiveness of an arbitrary combination function indicated in said first indication step,

wherein, when it is judged in said first judgment step that the combination function is effective, said virtual system configuration display step temporarily changes a display status of the icon for each function indicated in said first indication step from display statuses of other icons while the combination function is being executed.

17. (Unamended From Previous Version) A method according to Claim 14, further comprising:

a first indication step of indicating an arbitrary combination of the icons for the respective functions displayed on the display unit,

wherein said virtual system configuration display step displays a path to connect shortest the icons for the respective functions indicated in said first indication step on the virtual network path in a displaying form different from a displaying form of other paths.

18. (Unamended From Previous Version) A method according to Claim 17, wherein, when said virtual system configuration display step displays the path to connect shortest the icons for the respective functions indicated in said first indication step on the virtual network path in the displaying form different from that of other paths, said virtual system configuration display step adds a specific emphasis pattern to the indicated icons to emphasize and display these icons.

19. (Unamended From Previous Version) A method according to Claim 14, further comprising a judgment step of judging whether or not each device is shared on a network and a driver has been installed in said data processing apparatus,

wherein a displaying form of the icon corresponding to the device of which driver is not installed in said data processing apparatus is made different from a displaying form of the icon of other device in accordance with the judged result in said judgment step.

20. (Unamended From Previous Version) A method according to Claim 19, wherein the icon corresponding to the device of which driver is not installed in said data processing apparatus is displayed in gray.

21. (Amended) A storage medium which stores a computer-readable program to control a data processing apparatus capable of performing data communication with various devices connected on a predetermined communication medium, said program comprising:

an acquirement step of acquiring a resource information structure and a status of each device by communicating with the various devices;

a management step of storing and managing the resource information structure and the status acquired in said acquirement step; and

a virtual system configuration display step of causing a display unit to display a system configuration based on the resource information structure and the status stored and managed in said management step, such that icons capable of being

discriminated for respective functions are displayed to be connected on a virtual network path,

wherein, when a device capable of coping with a color data processing is connected on the predetermined communication medium, said virtual system configuration display step causes said display unit to display a mark indicating such a fact nearby the icon corresponding to the device capable of coping with the color data processing.

22. (Unamended From Previous Version) A storage medium according to Claim 21, wherein the icon for each function is a specific icon which is allocated to a maker of each device and of which displaying form is different from others.

23. (Unamended From Previous Version) A storage medium according to Claim 21, wherein said program further comprises:

a first indication step of indicating an arbitrary combination of the icons for the respective functions displayed on the display unit; and

a first judgment step of judging effectiveness of an arbitrary combination function indicated in said first indication step,

wherein, when it is judged in said first judgment step that the combination function is effective, said virtual system configuration display step temporarily changes a display status of the icon for each function indicated in said first indication step from display statuses of other icons while the combination function is being executed.

24. (Unamended From Previous Version) A storage medium according to Claim 21, wherein said program further comprises:

a first indication step of indicating an arbitrary combination of the icons for the respective functions displayed on the display unit,

wherein said virtual system configuration display step displays a path to connect shortest the icons for the respective functions indicated in said first indication step on the virtual network path in a displaying form different from a displaying form of other paths.

25. (Unamended From Previous Version) A storage medium according to Claim 24, wherein, when said virtual system configuration display step displays the path to connect shortest the icons for the respective functions indicated in said first indication step on the virtual network path in the displaying form different from that of other paths, said virtual system configuration display step adds a specific emphasis pattern to the indicated icons to emphasize and display these icons.

26. (Unamended From Previous Version) A storage medium according to Claim 21, wherein said program further comprises a judgment step of judging whether or not each device is shared on a network and a driver has been installed in said data processing apparatus, and

wherein a displaying form of the icon corresponding to the device of which driver is not installed in said data processing apparatus is made different from a displaying form of the icon of other device in accordance with the judged result in said judgment step.

27. (Unamended From Previous Version) A storage medium according to Claim 26, wherein the icon corresponding to the device of which driver is not installed in said data processing apparatus is displayed in gray.

28. (Amended) A data processing apparatus which can perform data communication with plural devices connectable with a data communication path, comprising:

display control means for displaying icons visually representing appearances of the devices connected on the data communication path, on a display unit,

wherein said display control means displays, on the display unit, an image representing the data communication path together with the plural icons respectively corresponding to the plural devices, and

said display control means disposes and displays the icons nearby the image representing the data communication path according to a connection status of the data communication path and the devices,

wherein, when a device capable of coping with a color data processing is connected on the data communication path, said display control means causes the display unit to display a mark indicating such a fact nearby the icon corresponding to the device capable of coping with the color data processing.

29. (Unamended From Previous Version) An apparatus according to Claim 28, wherein each of the plural devices has at least an independent function, and said display control means makes a displaying form of the icon different for each function.

30. (Unamended From Previous Version) An apparatus according to Claim 29, wherein, even if the plural icons respectively represent the devices having an identical function, said display control means makes the displaying forms of these icons different from others according to makers different.

31. (Unamended From Previous Version) An apparatus according to Claim 29, wherein the plural devices include a scanner, a printer and a digital copying machine, and

said display control unit displays the icon visually representing the appearance of the scanner, the icon visually representing the appearance of the printer, and the icon visually representing the appearance of the digital copying machine on the display unit according as these devices are connected on the data communication path.

32. (Unamended From Previous Version) An apparatus according to Claim 31, wherein the plural devices include a fax machine, a digital camera and a modem, and

said display control unit displays the icon visually representing the appearance of the fax machine, the icon visually representing the appearance of the digital camera, and the icon visually representing the appearance of the modem on the display unit according as these devices are connected on the data communication path.

33. (Unamended From Previous Version) An apparatus according to Claim 31, further comprising first indication means for indicating an arbitrary combination of the icons from among the plural icons displayed on the display unit,

wherein, according as the combination of the icons corresponding to the scanner and the printer is indicated by said first indication means, the scanner and the printer are cooperated with each other through the data communication path so as to execute a function equivalent to the function executable by the digital copying machine.

34. (Unamended From Previous Version) An apparatus according to Claim 29, further comprising:

first indication means for indicating an arbitrary combination of the icons from among the plural icons displayed on the display unit;

judgment means for judging whether or not the combination indicated by said first indication means is appropriate; and

control means for cooperating, according to the judged result of said judgment means, each of the devices represented by the icons of the arbitrary combination indicated by said first indication means with others through the data communication path so as to execute an arbitrary combination function executable by the devices represented by the icons of the arbitrary combination.

35. (Unamended From Previous Version) An apparatus according to Claim 34, wherein said display control means temporarily makes the displaying form of the icons of the arbitrary combination indicated by said first indication means different from

the displaying form of the icons representing other devices, according as the combination function is executed by using the arbitrary combination function.

36. (Unamended From Previous Version) An apparatus according to Claim 35, wherein said display control means displays a specific emphasis pattern nearby the icon of the arbitrary combination indicated by said first indication means.

37. (Unamended From Previous Version) An apparatus according to Claim 34, wherein, according as the combination function is executed by using the devices represented by the icons of the arbitrary combination, said display control means makes the displaying form of an image corresponding to a path connecting these devices with others on the image representing the data communication path different from the displaying form of an image corresponding to other path.

38. (Unamended From Previous Version) An apparatus according to Claim 34, wherein, according as the combination function is executed by using the devices represented by the icons of the arbitrary combination, said display control means temporarily makes the displaying form of the icon corresponding to the arbitrary device indicated by said first indication means different from the displaying form of the icon corresponding to other device, and makes the displaying form of an image corresponding to a path connecting these devices with others on the image representing the data communication path different from the displaying form of an image corresponding to other path.

39. (Unamended From Previous Version) An apparatus according to Claim 28, wherein, according as the device of which driver is not installed in said data processing apparatus is connected on the data communication path, said display control means makes a displaying form of the icon corresponding to the device of which driver is not installed different from a displaying form of the icon of other device.

40. (Unamended From Previous Version) An apparatus according to Claim 39, wherein said display control means displays in gray the icon corresponding to the device of which driver is not installed.

41. (Unamended From Previous Version) An apparatus according to Claim 28, further comprising:

acquirement means for acquiring data concerning an operation condition output by the device through the data communication path,

wherein said display control means displays the data concerning the operation condition nearby the icon corresponding to the device of a data output source acquired by said acquirement means.

42. (Unamended From Previous Version) An apparatus according to Claim 28, wherein, according as the device capable of inputting or outputting a color image is connected on the data communication path, said display control means displays a mark indicating such a fact nearby the icon corresponding to the device capable of inputting or outputting the color image.

43. (Unamended From Previous Version) An apparatus according to Claim 28, wherein, according as the device of which driver has been installed in said data processing apparatus but which can not be used is connected on the data communication path, said display control means displays a mark indicating such a fact nearby the icon corresponding to the unusable device.

44. (Amended) A data processing method for a data processing apparatus which can perform data communication with plural devices connectable with a data communication path, said method comprising:

a display control step of displaying icons visually representing appearances of the devices connected on the data communication path, on a display unit,

wherein said display control step displays, on the display unit, an image representing the data communication path together with the plural icons respectively corresponding to the plural devices, and

said display control step disposes and displays the icons nearby the image representing the data communication path according to a connection status of the data communication path and the devices,

wherein, when a device capable of coping with a color data processing is connected on the data communication path, said display control step causes the display unit to display a mark indicating such a fact nearby the icon corresponding to the device capable of coping with the color data processing.

45. (~~Unamended From Previous Version~~) Amended A storage medium which stores a program to cause a data processing apparatus which can perform data communication with plural devices connectable with a data communication path, to execute following step:

a display control step of displaying icons visually representing appearances of the devices connected on the data communication path, on a display unit,

wherein said display control step displays, on the display unit, an image representing the data communication path together with the plural icons respectively corresponding to the plural devices, and

said display control step disposes and displays the icons nearby the image representing the data communication path according to a connection status of the data communication path and the devices.

Please add the following new claims.

46. (New) A control method of a system including at least one or more devices having some functionality in common, comprising:

a display control step of allowing display of an icon corresponding to each of the devices included in the system, on a display unit,

wherein, in a case where the at least one or more devices includes a device capable of coping with a specific processing, said display control step causes the display unit to execute the display enabling discrimination from which of icons displayed for the at

least one or more devices is an icon for the device capable of coping with the specific processing.

47. (New) A method according to Claim 46, wherein said display control step enables discrimination from which of icons displayed for the at least one or more devices is an icon for the device capable of coping with the specific processing, by causing the display unit to display at least data for the icon of the device capable of coping with the specific processing and representing that the device is able to cope with the specific processing.

48. (New) A method according to Claim 46, wherein said display control step enables discrimination from which of icons displayed for the at least one or more devices is an icon for the device capable of coping with the specific processing, by causing the display unit at least to display a mark representing that the device is able to cope with the specific processing, nearby the icon of the device capable of coping with the specific processing.

49. (New) A method according to Claim 46, further comprising:

a selection step of enabling to select the icon on the display unit; and

a control step of enabling to select the icon on the display unit; and

a control step of enabling to execute the function of the device corresponding to the selected icon in said selection step, by using the device corresponding to the selected icon in the system.

50. (New) A method according to Claim 46, wherein, in a case where the system includes at least a scanner, said display control step enables to display at least the icon of the scanner on the display unit.

51. (New) A method according to Claim 50, further comprising:

a selection step of enabling to select the icon on the display unit; and

a control step of enabling to execute the scanner function by using the scanner corresponding to the icon of the scanner in the system.

52. (New) A method according to Claim 50, wherein in a case where the system includes plural scanners, when the plural scanners include the device capable of coping with color processing, said display control step causes the display unit to be able to execute the display enabling discrimination from which icons displayed for the plural scanners is an icon for the device capable of coping with the color processing.

53. (New) A method according to Claim 46, wherein, in a case where the at least one or more devices include a device capable of coping with color processing, said display control step causes the display unit to be able to execute the display enabling to discriminate from which icons displayed for the at least one or more devices is an icon for the device capable of coping with the color processing.

54. (New) A method according to Claim 49, wherein in a case where the system includes at least one multifunctional device having at least two or more of

plural functions that include a copy function, a scanner function, a printer function and a facsimile function, said display control step causes the display unit at least to be able to display the icon of the multifunctional device, and

in a case where the icon of the multifunctional device is selected on the display unit, said control step enables to execute the function of the multifunctional device by using the multifunctional device corresponding to an icon of the multifunctional device in the system.

55. (New) A method according to Claim 46, wherein, in a case where the system includes at least a scanner and a copying machine, said display control step causes the display unit at least to be able to display an icon of the copying machine as well as an icon of the scanner.

56. (New) A method according to Claim 55, further comprising:

a selection step of enabling to select an icon on the display unit; and

a control step of enabling to execute a scanner function by using a scanner corresponding to an icon of the scanner in the system when the icon of the scanner on the display unit is selected in said selection step, and enabling to execute a function of a copying machine by using a copying machine corresponding to an icon of the copying machine in the system when the icon of the copying machine on the display unit is selected in said selection step.

57. (New) A method according to Claim 46, wherein, in a case where the system includes at least a digital camera, said display control step enables to display at least an icon for the digital camera on the display unit.

58. (New) A method according to Claim 57, further comprising:

a selection step of enabling to select an icon on the display unit; and

a control step of enabling to execute a function of the digital camera by using a digital camera corresponding to an icon of the digital camera in the system when the icon of the digital camera on the display unit is selected in said selection step.

59. (New) A method according to Claim 46, wherein, in a case where the at least one or more devices include any of the plural devices including a scanner, a printer, a copying machine, a multifunctional device, a facsimile, a computer and a digital camera, said display control step causes the display unit to be able to simultaneously display icons corresponding to the devices included in the plural devices in the system.

60. (New) A method according to Claim 46, wherein, in a case where the system at least includes an unusable device, said display control step enables the display unit to perform the display to specify the icon as an unusable device.

61. (New) A method according to Claim 46, wherein in a case where at least one of the devices is a device for which a driver is not installed, said display control

step enables the display unit to perform the display to specify an icon for the device in which the driver is not installed.

62. (New) A method according to Claim 46, wherein, in a case where at least one of the devices is a job-spooled device, said display control step enables the display unit to perform the display to specify a number of jobs spooled for the job-spooled device.

63. (New) A method according to Claim 46, wherein said display control step enables the display unit to perform the display for enabling to specify which maker's device an icon for a device represents.

64. (New) A method according to Claim 46, wherein said display control step enables the display unit to perform the display to specify the outer shape of the actual device.

65. (New) A method according to Claim 46, wherein said display control step causes the display unit to display the data visually representing a data communication medium capable of being used for data communication by the device in the system.

66. (New) A method according to Claim 65, wherein said display control step causes the display unit to display said data as well as the icon corresponding to the device in the system.

67. (New) A method according to Clam 46, wherein said display control step enables the display unit to perform the display for enabling to discriminate a connection structure between the device in the system and a communication medium.

68. (New) A method according to Clam 67, wherein said display control step causes the display unit to display the data visually representing the data communication medium as well as an icon corresponding to the device in the system, and

said display control step enables to discriminate the connection structure between the device in the system and the communication medium by arranging and displaying the icon nearby said data on the display unit in accordance with the connection structure between the device and the communication medium.

69. (New) A method according to Clam 49, wherein said selection step enables to select one of more icons in the plural icons including a first icon and a second icon, and

in a case where the plural icons are selected in said selection step, said control step enables to execute, as a combined function, the function obtained by combining the functions of the plural devices corresponding to the plural icons selected.

70. (New) A method according to Claim 69, wherein, in a case where both the first and second icons are selected in said selection step, said control step enables to execute the combined function by causing to execute a function of the device corresponding to the first icon by using the device corresponding to the first icon and also causing to execute a function of the device corresponding to the second icon by using the device corresponding to the second icon.

71. (New) A method according to Claim 70, wherein, in the case where both the first and second icons are selected in said selection step, said display control step enables the display unit to perform the display for enabling to discriminate how the data communication between the device corresponding to the first icon and the device corresponding to the second icon is performed.

72. (New) A method according to Claim 69, wherein in a case where the system at least includes a copying machine, a scanner and a printer, said display control step enables to display an icon of the copying machine, an icon of the scanner, and an icon of the printer, and

in a case where the icon of the printer is selected as well as the icon of the scanner in said selection step, said control step enables to execute a function equivalent to a function of the copying machine by causing the scanner corresponding to the icon of the scanner to execute a scan function and the printer corresponding to the icon of the printer to execute a print function, without using the copying machine corresponding to the icon of the copying machine.

73. (New) A controller for a system including at least one or more devices having a common function, comprising:

a display controller for allowing display of an icon corresponding to the at least one or more devices included in the system, on a display unit,

wherein in a case where the system includes the one or more devices having a common function, when the one or more devices having a common function include a device capable of coping with specific processing, said display controller causes the display unit to execute the display enabling discrimination from which icons displayed for the one or more devices having a common function is an icon for the device capable of coping with the specific processing.

74. (New) A computer-readable storage medium which stores a program to execute a control method of a system including at least one or more devices having a common function, said method comprising:

a display control step of allowing display of an icon corresponding to the at least one or more devices included in the system, on a display unit,

wherein in a case where the system includes at least one or more devices having a common function, when the one or more devices having a common function include a device capable of coping with specific processing, said display control step causes the display unit to execute the display enabling discrimination from which of the icons displayed for the one or more devices having a common function is an icon for the device capable of coping with the specific processing.